CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 90-100
NPDES NO. CA0037788

REISSUING WASTE DISCHARGE REQUIREMENTS FOR

CITY OF BURLINGAME
AND NORTH BAYSIDE SYSTEM UNIT
SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter the Board) finds that:

1. The City of Burlingame, hereinafter Discharger, submitted a report of waste discharge dated January 25, 1990 and April 30, 1990 for reissuance of NPDES Permit No. CA0037788. The North Bayside System Unit (NBSU) is the Joint Powers Authority responsible for operation of certain shared transport and disposal facilities (the NBSU combined forcemain-outfall). The NBSU includes the Cities of Millbrae, Burlingame, South San Francisco and San Bruno, San Francisco International Airport, and Marine Magnesium Company. The joint effluent is dechlorinated prior to discharge into San Francisco Bay. The Discharger's Wastewater Treatment Plant contributes about 16% of the NBSU flow.

2. During 1988 the Discharger discharged an average dry weather flow of about 3.5 million gallons per day (mgd) from its secondary treatment plant, which has a current dry weather design capacity of 5.5 mgd. Treatment facilities consist of barminutors, primary clarifiers, aeration tanks, secondary and final clarifiers, and chlorination. This plant treats domestic and commercial wastewater from the City of Burlingame and portions of the Town of Hillsborough and unincorporated San Mateo County. The treated wastewater is discharged into the combined NBSU forcemain and outfall with final disposal into the deep water channel of lower San Francisco Bay, a water of the State and United States, northeast of Point San Bruno through a submerged diffuser about 5300 feet offshore at a depth of 20 feet below mean lower low water (Latitude 37 deg., 39 min., 55 sec.; Longitude 122 deg., 21 min., 41 sec.).

3. The discharge is presently subject to NPDES Permit No. CA0037788 (Order No. 85-82, adopted on June 19, 1985) which allows discharge into San Francisco Bay.

4. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986, and the State Water Resources Control Board (SWRCB) approved it on May 21, 1987.

5. The Basin Plan contains water quality objectives for lower San Francisco Bay and contiguous waters. The beneficial uses of lower San Francisco Bay and contiguous waters are:

    Water Contact Recreation
    Non-contact Water Recreation

Wildlife Habitat
Preservation of Rare and Endangered Species
Estuarine Habitat
Fish Migration and Spawning
Industrial Service Supply
Shellfish Harvesting
Navigation
Commercial and Sport Fishing

6. Table 4-1 in the Basin Plan contains new effluent limitations for both shallow water and deep water dischargers. The dischargers who cannot comply with the new effluent limitations may propose alternate effluent limits following the criteria described in the Basin Plan. Intent of the discharger must have been indicated to the Regional Board by November 20, 1987. At that time, a schedule and plan for submitting proposals for alternate limits was also to have been provided to the Regional Board staff. The Discharger, in a letter dated November 13, 1987, indicated that it may not meet the cyanide effluent limit listed in Table 4-1 of the Basin Plan (25 ug/l). The Discharger is conducting a study to determine the effluent cyanide concentration that can be consistently met with the application of all reasonable treatment and source control measures. Currently, the Discharger is consistently meeting the Table 4-1 limit for cyanide and expect to be able to continue to meet this limit. Results of weekly sampling for cyanide since November 1989 have all been below 20 ug/l. In addition, the Discharger is continuing to issue permits to significant cyanide contributors and is lowering the permit limit for cyanide from 1000 ug/l to 160 ug/l.

7. The NBSU joint outfall is located about six and one-half miles north of major shellfish beds along the San Mateo - Foster City shoreline. The Basin Plan sets stringent coliform limitations near shellfishing beds, specifying that a seven sample median shall not exceed 2.2 MPN/100 ml nor a maximum of 240 MPN/100 ml. Exceptions to these requirements may be granted by the Board where it is demonstrated that beneficial uses will not be compromised by such an exception. Dischargers receiving such exceptions shall not exceed a five sample median of 23 MPN/100 ml nor a maximum of 240 MPN/100 ml during dry weather. The Discharger and the NBSU have qualified for this exception.

   The Board may also consider establishing less stringent requirements for discharges during wet weather. Protection of shellfish harvesting in the vicinity of the NBSU outfall will not often be possible during wet weather unless significant resources are devoted to improved control and/or treatment of contaminated runoff. Shellfish beds in this area are not legally open for recreational harvesting during wet weather because of the lack of progress to date by EPA, State, City, and other agencies in controlling non-point sources of pollution. Until such improvements are achieved, the quality of water overlying the shellfish beds during wet weather will most often be controlled by the amount and type of runoff present. Therefore, the Discharger qualifies for less stringent coliform requirements during wet weather.

8. During wet weather, raw sewage overflows and bypasses may occur when sewer system and pump station capacity is exceeded as a result of excessive

infiltration or inflow of rainfall and rainfall runoff or as a result of pump station failures. Bypassing of primary effluent to the emergency nearshore outfall (Latitude 37 deg., 35 min., 32 sec.; Longitude 122 deg., 21 min., 15 sec.) may also occur during wet weather due to inadequate hydraulic and treatment capacity at the plant. Any such overflow or bypass is a violation of the requirements of this Order.

9. Cleanup and Abatement Order No. 81-003 was issued to the Discharger on February 27, 1981 for overflows of raw sewage to city streets and storm drains and partial bypassing of secondary treatment. Pump station and collection system deficiencies and excessive infiltration and inflow are responsible for most of these bypass and overflow incidents. Order No. 81-003 required completion of a Sewer System Evaluation Study (SSES). The Clean Water Grant funded SSES consisted of gross flow monitoring in November and December 1981, intensive flow monitoring in March 1982, and smoke testing, inspections, and televising in March through August 1983.

10. At its August 15, 1984 meeting the Board adopted Resolution No. 84-11 implementing the California Compliance Policy and requiring the Discharger to submit a Municipal Compliance Plan (MCP) by June 1985 to meet NPDES Permit requirements as soon as possible but not later than the statutory deadline of July 1, 1988. A final Wet Weather MCP was submitted by the Discharger on June 4, 1985. Proposed Phase II improvements will bring the Discharger into wet weather compliance for up to a five to ten year storm event. Subsequent Phase III improvements will provide additional capacity and reliability to accomodate at least a twenty year storm event. In Order No. 85-82, the Board required the Discharger to implement the proposed Phase II and III improvements according to a time schedule which called for full compliance by July 1, 1988.

11. The Discharger was not able to meet the July 1, 1988 deadline for two reasons. The Discharger was unwilling to proceed on certain major projects with local funds since doing so would jeopardize Clean Water Grant eligibility. When Clean Water Grant funds were not given to the Discharger, the Discharger was unable to come up with enough financing to complete the required projects in the remaining time. To date, the Discharger has completed most of the Phase II improvements and some of the Phase III collection system improvements.

12. Design of the Phase III treatment plant improvements has been completed and construction is expected to start soon. The principal treatment plant improvements as described in a Black and Veatch report (dated April 1986) include modifications and/or additions to the headworks, primary treatment, primary effluent pumping, primary effluent splitting, chlorine handling, disinfection, effluent flow splitting, effluent pumping, primary sludge pumping, gravity thickener, secondary sludge thickening, thickened sludge pumping, grit and rag handling, digested sludge dewatering building, new administration building, electrical system, and digester gas utilization for power cogeneration. Once the Phase III treatment plant improvements are completed, only fully treated secondary effluent in excess of the forcemain capacity will be bypassed to the emergency outfall.

13. The Discharger submitted an application dated December 1982 for a waiver of secondary treatment requirements (during periods of wet weather) in

accordance with Section 301(h) of the 1981 Amendments to the Clean Water Act. The Discharger withdrew the 301(h) application by letter dated September 11, 1986.

14. An Operation and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, recommended operation strategies, process control monitoring, and maintenance activities.

15. The Discharger has implemented and is maintaining an EPA approved Local Pretreatment Program for source control and application of pretreatment standards.

16. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

17. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and opportunity to submit their written views and recommendations.

18. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited except as provided in Prohibition 3.

2. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection or transport system or pump stations tributary to the treatment plant or outfall is prohibited.

3. Discharge to the emergency outfall is prohibited except during extreme wet weather events when the maximum hydraulic capacity of the Burlingame to Millbrae section of the NBSU forcemain is exceeded or when maintenance or repairs to the NBSU forcemain are required. Only fully treated secondary effluent in excess of the forcemain capacity shall be discharged during such events.

4. The average dry weather flow shall not exceed 5.5 mgd. This average shall be determined over three consecutive dry weather months each year.

B. Effluent Limitations

1. Effluent discharged into the combined forcemain-outfall shall not exceed the following limits:

Constituents	Units	Monthly Average	Weekly Average	Maximum Daily	Instantaneous Maximum
a. Settleable Matter	ml/l-hr	0.1	---	---	0.2
b. BOD_5	mg/l	30	45	60	---
c. Total Suspended Solids	mg/l	30	45	60	---
d. Oil & Grease	mg/l	10	---	---	20
e. Total Chlorine Residual (1)	mg/l	---	---	---	0.0

(1) Requirement defined as below the limit of detection in standard test methods. Compliance with this limitation will normally be demonstrated at the NBSU joint dechlorination facility.

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in a calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).

3. The pH of the discharge shall not exceed 9.0 nor be less than 6.0.

4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples. The toxicity bioassay shall be determined using two test species in parallel flow-through bioassays. One shall be three-spine stickleback, and the other shall be either rainbow trout or fathead minnow.

5. Representative samples of the effluent shall not exceed the following limits (1):

Constituents	Units	Daily Maximum
a. Arsenic	ug/l	200
b. Cadmium	ug/l	30
c. Chromium(VI) (2)	ug/l	110
d. Copper	ug/l	200
e. Lead	ug/l	56
f. Mercury	ug/l	1
g. Nickel	ug/l	71
h. Silver	ug/l	23
i. Zinc	ug/l	580
j. Cyanide	ug/l	25
k. Phenols	ug/l	500

l. Polynuclear Aromatic Hydrocarbons (3)	ug/l	150
m. Selenium (4)	ug/l	---

(1) These limits are based on a combination of fresh and salt water quality objectives, technological achievability, limits of detection, and limited allowance for dilution. These limits are intended to be achieved through a combination of Best Available Technology, secondary treatment, source control, and application of pretreatment standards.

(2) The Discharger, at its option, may meet this limit as total chromium.

(3) As identified by EPA Method 610. If a discharge exceeds the limit for PAHs, concentrations of individual constituents should be reported.

(4) Selenium limitation to be established.

6. During the months of May through September inclusive, the moving median value for the Most Probable Number (MPN) of total coliform in any five (5) consecutive effluent samples shall not exceed 23 coliform organisms per 100 milliliters. Any single sample shall not exceed 240 MPN/100 ml. During the wet weather months of October through April inclusive, the moving median value for the Most Probable Number (MPN) of total coliform in any five (5) consecutive effluent samples shall not exceed 240 coliform organisms per 100 milliliters. Any single sample shall not exceed 2400 MPN/100 ml.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulated matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, taste, odor, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the

water surface:

a. Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b. Dissolved sulfide	0.1 mg/l maximum
c. pH	Variation from natural ambient pH by more than 0.5 pH units.
d. Un-ionized ammonia	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum

3. The Discharger shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Sludge Requirements

1. Permanent sludge storage or disposal activities are not authorized by this permit. A Report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencing any such activity.

2. The treatment, disposal, storage, or processing of sludge shall not create a condition of pollution or nuisance as defined in Section 13050(l) and (m) of the California Water Code.

3. The treatment, disposal, storage, or processing of sewage sludge shall not cause waste material to be in any position where it is, or can be, carried from the sludge treatment, disposal, storage, or processing site and be deposited in waters of the State.

4. Any sludge treatment, disposal, storage, or processing site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the disposal site to escape from the site. Adequate protection is defined as protected from at least a 100-year storm and from the highest tidal stage that may occur.

5. Discharge to the Land Disposal Site holding ponds of sewage sludge other than that produced as a result of the operation of the Discharger's wastewater treatment facilities is prohibited.

6. The direct or indirect discharge of sludge waste to waters of the State is prohibited.

7. Sludge management and disposal practices shall comply with all current state and EPA regulations, including 40 CFR 257.

8. This permit may be reopened to include sludge management requirements promulgated under Section 405(d)(2) of the Clean Water Act, provided that the existing permit contains less stringent sludge management requirements.

9. The Discharger shall provide written notice to the Regional Board at least 90 days prior to making any significant changes in sludge disposal practices.

E. Provisions

1. The two dischargers named in this Order shall be responsible for compliance with the requirements and provisions for discharges over which they have control. The City of Burlingame shall comply with requirements relating to the discharge from its treatment plant and NBSU shall comply with requirements relating to the discharge of the combined effluents.

2. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 85-82. Order No. 85-82 is hereby rescinded.

3. Where concentration limitations in mg/l or ug/l are contained in this permit, the following mass emission limitations shall also apply:

   Mass Emission Limit (in lbs/day or kg/day) = Concentration Limit in mg/l x (8.34 or 3.79) x Actual Flow in mgd averaged over the time interval to which the limit applies.

4. The Discharger shall comply with all sections of this Order immediately upon adoption.

5. The Discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. Documentation of operator input and review should accompany each annual update.

6. The Discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

7. The Discharger shall implement and enforce its approved pretreatment program in accordance with Regional Board Order No. 89-179 and its amendments thereafter. The Discharger's responsibilities include, but are not limited to:

   a. Enforcement of national pretreatment standards (e.g., prohibited discharges, categorical standards, local limits) in accordance with 40 CFR 403.5 and Section 307(B) and (C) of the Clean Water Act.

   b. Implementation of the pretreatment program in accordance with the legal authorities, policies, procedures, and financial provisions described in the general pretreatment regulations (40 CFR 403) and the Discharger's approved pretreatment program including subsequent modifications to the program.

   c. Submission of annual and quarterly reports to EPA and the State as described in Board Order 89-179 and its amendments thereafter.

8. The Discharger shall comply with the attached self-monitoring program. The Executive Officer may make minor amendments to it pursuant to federal regulations (40 CFR 122.63).

9. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements," dated December, 1986.

10. The Discharger shall implement wet weather conveyance and treatment plant improvements according to the following schedule:

Task	Completion Date
a. Begin Construction of Phase III Treatment Plant Improvements identified in the April 1986 Black and Veatch Report	April 1, 1991
b. Complete Sewer System Rehabilitation Projects Identified as Phase II in the Final Municipal Compliance Plan (MCP)	June 30, 1991
c. Complete Sewer System Rehabilitation Projects Identified as Phase III in the Final MCP	June 30 1992
d. Complete Construction of Phase III Treatment Plant Improvements	December 31, 1992
e. Full Compliance	December 31, 1992
f. Submit Annual Progress Reports Quantifying Sewerage System Improvements and Their Impacts on Compliance, Wet Weather Flow Quantity, Overflow/Bypass Frequency, and Summarizing Actions for the Coming Year. If noncompliance with the above time schedule is being reported, the reasons for such noncompliance shall be stated, including the corrective actions taken and an	July 1 (each year from 1991 until full compliance is achieved)

estimate of the date when the Discharger will return to compliance.

11. Controlled selective "blending" of primary and secondary effluents can be expected to produce the highest overall effluent quality and the minimum mass of pollutants discharged when wet weather flows in excess of the peak design capacity of the secondary system are experienced.

12. This Order expires on July 18, 1995. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

13. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on July 18, 1990.

STEVEN R. RITCHIE
Executive Officer

Attachments:

Standard Provisions & Reporting
Requirements, December 1986
Self-Monitoring Program
Resolution 74-10

[File No. 2179.7005A]
[Originator/JMJ]
[Reviewer/SAH]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

CITY OF BURLINGAME

AND NORTH BAYSIDE SYSTEM UNIT

SAN MATEO COUNTY

NPDES NO. CA 0037788

ORDER NO. 90-100

CONSISTS OF

PART A, dated December 1986

AND

PART B

PART B

CITY OF BURLINGAME AND NORTH BAYSIDE SYSTEM UNIT

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present, preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

B. EFFLUENT

Station	Description
E-001	At any point in the plant after disinfection between the point of discharge into the combined forcemain-outfall and the point at which all waste from the treatment plant is present.
E-002	At any point in the combined outfall after dechlorination between the point of discharge into San Francisco Bay and the point at which all waste tributary to that combined outfall is present.

C. RECEIVING WATERS

Station	Description
C-1	At a point in San Francisco Bay located over the geometric center of the outfall's discharge ports.
C-2	At a point in San Francisco Bay located midway between C-1 and C-3.
C-3	At a point in San Francisco Bay located in the center of the waste plume.
C-50-SW	At a point in San Francisco Bay, located 50 feet southwesterly, along the outfall line shoreward from Station C-1.
C-50-NW	At a point in San Francisco Bay, located 50 feet northwesterly from Station C-1, normal to the outfall line.

C-50-NE	At a point in San Francisco Bay, located 50 feet northeasterly from Station C-1, along the outfall line extended.
C-50-SE	At a point in San Francisco Bay, located 50 feet southeasterly from Station C-1, normal to the outfall.
C-300-N through C-300-NW (8 stations)	At a point in San Francisco Bay located on a 300 foot radius from the geometric center of the outfall diffuser, at equidistant intervals, with Station C-300-SW located shoreward from Station C-1 at the outfall line.
C-R-NW	At a point in San Francisco Bay located approximately 1500 feet northerly from the point of discharge.
C-R-SE	At a point in San Francisco Bay located approximately 1500 feet southeasterly from the point of discharge.

D. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 500 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

Station	Description
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations, or collection systems.

REPORTING - Shall be submitted monthly and include date, time, quantity, and period of each overflow or bypass and measures taken or planned to prevent future occurrences (see Part A, Section G.2.)

II. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The schedule of sampling, analysis, and observations shall be that given as Table I.

PART B

CITY OF BURLINGAME AND NORTH BAYSIDE SYSTEM UNIT

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present, preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

B. EFFLUENT

Station	Description
E-001	At any point in the plant after disinfection between the point of discharge into the combined forcemain-outfall and the point at which all waste from the treatment plant is present.
E-002	At any point in the combined outfall after dechlorination between the point of discharge into San Francisco Bay and the point at which all waste tributary to that combined outfall is present.

C. RECEIVING WATERS

Station	Description
C-1	At a point in San Francisco Bay located over the geometric center of the outfall's discharge ports.
C-2	At a point in San Francisco Bay located midway between C-1 and C-3.
C-3	At a point in San Francisco Bay located in the center of the waste plume.
C-50-SW	At a point in San Francisco Bay, located 50 feet southwesterly, along the outfall line shoreward from Station C-1.
C-50-NW	At a point in San Francisco Bay, located 50 feet northwesterly from Station C-1, normal to the outfall line.

C-50-NE	At a point in San Francisco Bay, located 50 feet northeasterly from Station C-1, along the outfall line extended.
C-50-SE	At a point in San Francisco Bay, located 50 feet southeasterly from Station C-1, normal to the outfall.
C-300-N through C-300-NW (8 stations)	At a point in San Francisco Bay located on a 300 foot radius from the geometric center of the outfall diffuser, at equidistant intervals, with Station C-300-SW located shoreward from Station C-1 at the outfall line.
C-R-NW	At a point in San Francisco Bay located approximately 1500 feet northerly from the point of discharge.
C-R-SE	At a point in San Francisco Bay located approximately 1500 feet southeasterly from the point of discharge.

D. LAND OBSERVATIONS

Station	Description
P-1 through P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 500 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

Station	Description
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations, or collection systems.

REPORTING - Shall be submitted monthly and include date, time, quantity, and period of each overflow or bypass and measures taken or planned to prevent future occurrences (see Part A, Section G.2.)

II. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The schedule of sampling, analysis, and observations shall be that given as Table I.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 90-100.

2. Is effective on the date shown below.

STEVEN R. RITCHIE
Executive Officer

Effective Date 7/5/90

Attachments:
Table I and Footnotes
Part A, December 1986

ORDER NO. 90-100

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS(1)

Sampling Station	A-001	E-001			E-002			All C Sta	All P Sta					
TYPE OF SAMPLE	C-24	G 3)	C-24	Cont	G 3)	C-24 9/	Cont	G 10)	O					
Flow Rate (mgd)				D			D							
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	2/W		3/W			5/W								
Chlorine Residual & Dosage (mg/l & kg/day)		2H or Cont 5)			2H or Cont 5)									
Settleable Matter (ml/l-hr. & cu. ft./day)		D			D									
Total Suspended Matter (mg/l & kg/day)	2/W		D			5/W								
Oil and Grease (mg/l & kg/day)	2/M 2/	2/M 2/			2/M 2/									
Coliform (Total or Fecal) (MPN/100 ml) per req't		3/W			5/W			M 4)						
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste				8) M		M 9/								
Ammonia-N & Un-ionized (mg/l & kg/day) NH_3-N			M 7)			M 6)		M						
Nitrate Nitrogen (mg/l & kg/day)			M 7)			M 6)								
Nitrite Nitrogen (mg/l & kg/day)			M 7)			M 6)								
Total Organic Nitrogen (mg/l & kg/day)														
Total Phosphate (mg/l & kg/day)														
Turbidity (NTU)			D			M		M						
pH (units)		D 11)			D			M						
Dissolved Oxygen (mg/l and % Saturation)		D 11)			D			M						
Temperature (°C)		D 11)			D			M						
Apparent Color (color units)														
Secchi Disc (inches)								M						
Sulfides (if DO $X_{2.0}$ mg/l) Total & Dissolved (mg/l)		D			D			M						
Arsenic (mg/l & kg/day)			M 12)											
Cadmium (mg/l & kg/day)			M 12)											
Chromium, Total (mg/l & kg/day)			M 12)											
Copper (mg/l & kg/day)			M 12)											
Cyanide (mg/l & kg/day)			M 12)											
Silver (mg/l & kg/day)			M 12)											
Lead (mg/l & kg/day)			M 12)											

TABLE I (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001			E-002			All C Sta	All P Sta	All OV Sta			
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	O				
Mercury (mg/l & kg/day)			M[12]										
Nickel (mg/l & kg/day)			M[12]										
Zinc (mg/l & kg/day)			M[12]										
Phenolic Compounds (mg/l & kg/day)			Q[12]										
All Applicable Standard Observations		D			D			M	E	E			
Bottom Sediment Analyses and Observations													
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)													
Dewatered Sludge									D[13]				
Daily Rainfall									D				
Polynuclear Aromatic Hydrocarbons (mg/l & kg/day)			Q[12]										
Selenium (mg/l & kg/day)			M										

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
Cont = continuous sampling
O = observation

TYPES OF STATIONS

A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
OV = overflows and bypasses

FREQUENCY OF SAMPLING

E = each occurence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/y = once in March and once in September
Q = quarterly, once in March, June, Sept. and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

FOOTNOTES

1/ During any day when bypassing occurs from any treatment unit(s) in the plant or to the emergency outfall, the monitoring program for the effluent and any nearshore discharge shall include the following in addition to the above schedule for sampling, measurement and analyses:

1. Composite sample for BOD and Total Suspended Solids (unless regular 24-hour composite samples are available, sampling shall consist of one grab sample during the first two hours of bypassing and grab samples every four hours afterward for the duration of the bypass. The grab samples will be combined on a flow-proportioned basis and analyzed as a composite sample.)

2. Grab samples for Total Coliform, Settleable Matter, Oil and Grease, and chlorine residual (continuous or every two hours).

3. Continuous monitoring of flow.

2/ Oil and Grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day with each grab being collected in a glass container and analyzed separately. Results for stations A-001 and E-001 shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample. Results for station E-002 shall be expressed as a simple average of the three values. If the plant is not staffed 24 hours per day or if the discharge does not occur continuously, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed or during the period that discharge is made.

The 3 grab samples may be combined and analyzed as a composite sample <u>after</u> submittal of data acceptable to the Executive Officer that the two techniques are equivalent. In the event that sampling for oil and grease once every two weeks or less frequently shows an apparent violation of the waste discharge permit monthly average limitation (considering the results of one or two day's sampling as a monthly average), then the sampling frequency shall be increased to weekly so that a true monthly average can be computed and compliance can be determined.

3/ Grab samples shall be taken on day(s) of composite sampling.

4/ 5 samples per station at Stations C-1, 2, 3, CR-NW, and CR-SE only.

5/ Data shall be reported using forms provided or approved equivalent. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.

6/ These parameters shall be tested for on the same composite sample used for the bioassay.

7/ These parameters shall be tested for in the effluent when the flow-through bioassay test is in progress.

8/ Compliance with the effluent toxicity requirement shall be determined using two test species in parallel flow-through bioassays. One shall be three-spine stickleback, and the other shall be either rainbow trout or fathead minnow. The sample may be taken from E-001 prior to disinfection instead of continuously dechlorinating E-001 effluent.

9/ Sample date for bioassay and for one of all other specified parameters at E-002 shall coincide with date and times of Marine Magnesium Company's E-001 composite sample.

10/ Sampling shall be coordinated to be on the same date and approximate time as for the City of San Mateo and the South Bayside System Authority.

11/ These parameters shall also be tested for on the same sample(s) used for the bioassay(s) prior to starting the flow-through bioassay(s) and at intervals of 24, 48, 72, and 96 hours after starting the flow-through bioassay(s).

12/ If any sample is in violation of limits, sampling shall be increased for that parameter to weekly until compliance is demonstrated in two successive samples.

13/ Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.